Ohio Environmental Protection Agency

Division of Surface Water

Application for Authorization
Class B Biosolids Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Dovetail Energy, LLC		
Ohio NPDES permit #: 1IN00305*AD		County: Greene
Mailing address: 1146 Herr Rd.		
City: Fairborn	State: Ohio	Zip: 45324
Operator of record: Bruce Bailey, VP of Technical Affairs		
Telephone number: (216) 986-9999		
Email address: bbailey@quasareg.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.

3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.

4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.

Signature _____ Date _____ / _____ / _____

This form shall be signed by the operator of record for the treatment works.

Form BUA-2

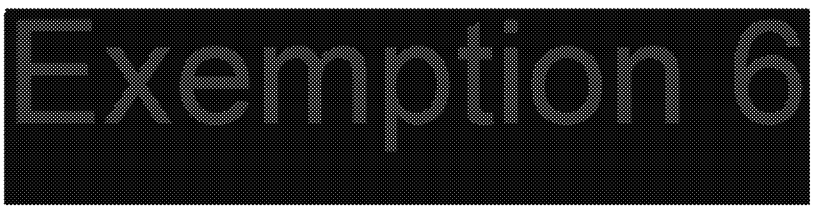
Owner Consent for Beneficial Use

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.

2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.

3. I certify that I am holder of legal title to the property described on application form BUA-4, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.



12 / 31 / 14
Date

In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Operator Consent for Beneficial Use

Beneficial use site operator: Pitstick Pork Farms, Inc.		
Mailing address: 1146 Herr Rd		
City: Fairborn	State: OH	Zip: 45324
Telephone number: 937-879-0154		
Email address: tvpitstick@gmail.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Tim Pitstick
Signature

9 / 15 / 15
Date

For purposes of this form, beneficial use site operator means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site. In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.

OhioEPA
Ohio Environmental Protection Agency
Division of Surface Water

Beneficial User Information

Beneficial user: Dovetail Energy, LLC		
Contact person: Bruce Bailey, VP of Technical Affairs		
Mailing address: 5755 Granger Rd. Suite 320		
City: Independence	State: Ohio	Zip: 44131
Telephone number: (216) 986-9999		
Email address: bbailey@quasareg.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Signature _____ Date ____/____/____

For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

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ED_014244A_00000148-00007

Ohio Environmental Protection Agency
Division of Surface Water

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: GRQ-10-01

Beneficial use site location: 0.1 miles E of W Enon Rd., on N side of W. Dayton Yellow Springs Rd.

County: Greene	**Township**: Bath
Latitude: 39°47'44.75"N	**Longitude**: 83°56'36.74"W

Total acreage proposed for beneficial use: 13.0

Type of beneficial use to be performed:

Surface application	☐
Injection or immediate incorporation	■

Ground slope percent:

Less than 15%	■	15% to 19.9%	☐
Greater than 20%	☐		

Soil pH (s.u): 5.7

Bedrock depth (feet): >3ft

Soil phosphorus (mg/kg): 10

Bray Kurtz P1	■
Mehlich 3	☐

Type of crops to be grown:

Crop Type	Expected Yield
Corn	180 bu
Soybeans	60 bu
Wheat	
Pasture	
Hay	
Other:	

Soil Types:

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group	Flooding Frequency Class
MhB	Miamian silt loam, 2-6% slopes	C	None
MtB	Milton silt loams, 2-6% slopes	C	None

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Applicable isolation distances:

Type of Isolation Distance			
Surface waters of the state	■	Sinkhole/UIC class V drainage	☐
Occupied building	■	Private potable water source	☐
Medical care facility	☐		

Are any endangered species or endangered species habitats located on the beneficial use site?

☐ Yes	■ No

If "Yes" is marked, list the types of endangered species or endangered species habitat:

Have biosolids been beneficially used on the site since July 20, 1993?

☐ Yes	■ No

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following:

- ■ A soil map of the proposed beneficial use site.
- ■ A frequency flood class map of the proposed beneficial use site.
- ■ An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code.
- ■ A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled.
- ■ A copy of the most recent soil test results identified in this form.

quasar energy group

GRQ-10-01
Total Acreage: 13.0 Acres

N

0 150 300 600 Feet

Waterways
Residences
33ft Water Buffer
100ft Res Buffer
Bedrock Exclusion
300ft Res Buffer

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quasar energy group

GRQ-10-01
Total Acreage: 13.0 Acres

N

0 150 300 600 Feet

5ft Contours

ED_014244A_00000148-00011

Custom Soil Resource Report
Soil Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Greene County, Ohio
Survey Area Data: Version 12, Sep 26, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 6, 2012—Mar 10, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Greene County, Ohio (OH057)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MhB	Miamian silt loam, 2 to 6 percent slopes	14.0	77.6%
MtB	Milton silt loam, 2 to 6 percent slopes	4.1	22.4%
Totals for Area of Interest		**18.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

Custom Soil Resource Report
Map—Depth to Any Soil Restrictive Layer (GRQ-10-01)

Map Scale: 1:3,510 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 50, 100, 200, 300

Feet: 0, 150, 300, 600, 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
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Coordinate System: Web Mercator (EPSG:3857)

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Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Depth to Any Soil Restrictive Layer (GRQ-10-01)

Depth to Any Soil Restrictive Layer— Summary by Map Unit — Greene County, Ohio (OH057)				
Map unit symbol	**Map unit name**	**Rating (centimeters)**	**Acres in AOI**	**Percent of AOI**
MhB	Miamian silt loam, 2 to 6 percent slopes	91	14.0	77.6%
MtB	Milton silt loam, 2 to 6 percent slopes	76	4.1	22.4%
Totals for Area of Interest			**18.1**	**100.0%**

Rating Options—Depth to Any Soil Restrictive Layer (GRQ-10-01)

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Hydrologic Soil Group (GRQ-10-01)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential,

Custom Soil Resource Report
Map—Hydrologic Soil Group (GRQ-10-01)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
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Background
- Aerial Photography

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Table—Hydrologic Soil Group (GRQ-10-01)

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Totals for Area of Interest			**18.1**	**100.0%**

Rating Options—Hydrologic Soil Group (GRQ-10-01)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

lb/A

BROOKSIDE LABORATORIES, INC.

74155-4

SOIL AUDIT AND INVENTORY REPORT

Name Dovetail Bio Energy/Renergy City Marengo State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 10/06/2015

Sample Location	SI18		1				
Sample Identification			1OF1				
Lab Number			0804-1				
Total Exchange Capacity (ME/100 g)			12.09				
pH (H_2O 1:1)			5.7				
Organic Matter (humus) %			1.33				
Estimated Nitrogen Release		lb/A	47				
ANIONS	SOLUBLE SULFUR*	ppm	8				
ANIONS / PHOSPHORUS	MEHLICH III	lb/A P as P_2O_5	46				
		ppm of P	10				
	BRAY II	lb/A P as P_2O_5	46				
		ppm of P	10				
	OLSEN	lb/A P as P_2O_5					
		ppm of P					
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	2530				
		ppm	1265				
	MAGNESIUM*	lb/A	464				
		ppm	232				
	POTASSIUM*	lb/A	80				
		ppm	40				
	SODIUM*	lb/A	48				
		ppm	24				
BASE SATURATION PERCENT							
Calcium	%		52.32				
Magnesium	%		15.99				
Potassium	%		0.85				
Sodium	%		0.86				
Other Bases	%		6.00				
Hydrogen	%		24.00				
EXTRACTABLE MINORS							
Boron* (ppm)			0.24				
Iron* (ppm)			186				
Manganese* (ppm)			125				
Copper* (ppm)			3.01				
Zinc* (ppm)			6.97				
Aluminum* (ppm)			641				
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						

* Mehlich III Extractable